

GUIDANCE

SETTING INSTREAM FLOWS AND ALLOCATING WATER FOR FUTURE OUT-OF-STREAM USES

September 2004



WASHINGTON STATE
DEPARTMENT OF
E C O L O G Y

Note: You may share this document with Watershed Planning Units if you feel it is useful to do so. It reflects our latest thinking, and we are open to any suggestions to make it more useful. For comments or more information, contact Hedia Adelsman at 407-6222 or [hade461@ecy.wa.gov].

GUIDANCE

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The purpose of this guidance is to identify technical and rulemaking considerations for developing rules setting instream flows and allocating water for future domestic uses. It is intended to provide general guidance and not to prescribe any set methodology or approach. This document provides guidance in four parts:

- *Developing instream flow levels and closures to be adopted by rules.*
- *Allowance for future out-of-stream water uses in conjunction with setting instream flows.*
- *Applicability of the maximum net benefit test to rules setting instream flows and allocating water for future out-of-stream uses.*
- *State decisions to approve changes to instream flow priority dates set by the Watershed Planning Act, Chapter 90.82 RCW.*

Note: This Guidance is not intended to be used in watersheds where the state and the watershed planning unit have already agreed on instream flow levels, mechanisms to protect instream flows (e.g. closures), and allocations for future out of stream water uses.

PART 1: GUIDANCE ON DEVELOPING INSTREAM FLOWS AND CLOSURES

1.1 Background on instream flows.

The Department of Ecology (Ecology) has statutory obligations concerning stream flows. Especially in Chapters 90.22, 90.54, and 90.82 RCW, Ecology has been instructed by the Legislature to set stream flow levels in rule in order to “protect and preserve instream resources.” The flows set in rules are referred to as “base” or “minimum” flows in statutes and as “regulatory” flows in the Instream Flow Action Plan and in some local watershed plans developed under Chapter 90.82 RCW. Instream flows adopted for fish protect and preserve other instream values, such as water quality, wildlife, aesthetics, and recreation.

Instream flows adopted by rule are water rights protected from impairment by rights junior in priority date to the instream flows. The priority date for flows adopted under Chapter 90.82 RCW is two years after the planning unit received funding from Ecology, unless the watershed planning unit unanimously votes to change the date to the effective date of the adopted instream flow rule (see Part 4). For flows adopted under Chapter 90.54 RCW, the priority date is the effective date of the instream flow rule (usually 30 days after the rule is signed by the Director of Ecology).

Instream flow requirements do not put water in streams, rather they are intended to protect base flows from future withdrawals, guide impairment determinations, and reflect flow levels that would be beneficial for fish if those flows were present in the stream.

1.2 Guidance for determining and recommending instream flow levels to be set in rules.

Fish need flows that vary in size, frequency, season and duration. They need habitat flows that provide “living space” referred to as useable habitat. They also need ecological flows that provide other essential ecological functions, such as fish migration flows (up and down for adult and juvenile), flushing flows that remove sediments, and channels and riparian maintenance flows.

In determining instream flow levels needed to protect and preserve instream resources, Ecology and the Washington Department of Fish and Wildlife (WDFW) fish scientists are guided by the steps outlined below. Please note that analysis is basin specific. In several basins the analysis is performed in conjunction with watershed planning.

- Assess habitat flows using existing field data, professional observations and methods such as IFIM/PHABSIM (Instream Flow Incremental Methodology/Physical Habitat Simulation) and Toe Width¹ to develop initial biological information and estimate flows that provide maximum spawning and rearing habitat for the stream and species in question.
- In streams where historical flow data exists, a certain trend is being observed. The information seems to indicate that hydrologic frequency and duration data, in conjunction with initial biological information, will provide a more realistic estimate of the biological flows needed by various fish populations and at their different life stages. This data can help generate recommended monthly or even by-weekly habitat instream flows that can be set by state rule.

For example, in the case of the Samish River, biologists determined that steelhead spawning flow levels of significant benefit had to be met or exceeded seven consecutive days, at least one out of every 10 to 12 years. The period of seven consecutive days was based on data, observations, and experience in comparable streams. Higher levels of steelhead spawning often occurred in streams after seven or more consecutive days of higher flows.

- In un-gauged streams, with no historical stream flow data, (unless stream flow data and hydrographs can be simulated with a high degree of confidence), the results of habitat models IFIM/PHABSIM or Toe Width are used to develop recommended flow levels.
- In streams with highly altered flows, (fully appropriated, or significantly impacted by development) the results of the habitat models IFIM/PHABSIM or Toe Width are used to develop the recommended flow levels.

¹ For overview of IFIM/PHABSIM and Toe-Width methods go to: Instream Flow Study Methods Used in Washington State— www.ecy.wa.gov/programs/wr/instream-flows/isfsci.html

The recommended minimum flow levels are thresholds that are considered in determining water availability. Streams flows that are above the minimum flows with sufficient frequency will generally be available for further appropriations, although they will be subject to interruption at times the flows are not met. See Appendix A for directions for implementing this guidance.

1.3 Protecting instream flows.

Existing water rights

Instream flows set by rules do not affect senior legal water rights.

Future water withdrawals

Protection of instream flows applies to all future (junior) rights from surface water and ground water in hydraulic continuity with the surface water, unless the junior water rights qualify for an exception that is part of the minimum flow rule.

Ground water withdrawals, including permit-exempt withdrawals, when in hydraulic continuity with surface waters must not impair senior surface water rights and must not affect the flow of any surface water body (RCW 90.44.030).

Any approval of a new water-right application is subject to instream flows rules which have been adopted or are in effect at the time of approval, even if the application was filed prior to the rule. Those water rights are referred to as “interruptible” water rights subject to protection of all existing senior water rights, including instream flows set by rule.

Approval of new water right permits must also be based upon a finding of water availability. Even if an instream flow rule does not exist for the stream or river involved in the new application, Ecology must consider whether sufficient water may be present to preserve and protect the instream resources in that stream or river if the new application is granted.

Maximum amount of water withdrawals

In addition to setting minimum instream flows, maintaining healthy fish and aquatic populations may also require providing protection of a certain frequency and duration of ecological flows. As noted above, high flows provide critical ecological functions such as channel and riparian zone maintenance, flushing of sediments, and in and out migration of fish.

Protection of the frequency and duration of higher ecological flows can be accomplished by establishing a maximum amount of water/flow that can be withdrawn from the stream above the instream flow levels. Hydrologic data may be analyzed to determine the amount of withdrawals that could be made and still maintain flows needed for channel and riparian maintenance. However, such withdrawals would be subject to interruption if the minimum instream flows are not met.

For a recent example of an instream flow rule that uses hydrologic data to develop interruptible withdrawal limits that protect ecological functions, see the Skagit instream flow rule, WAC 173-503-030(3).

Closures

Instream resources can be protected by establishing year-around or seasonal stream closures. A closure is a finding by Ecology that no water is available for future uses. New water-right application requests for a consumptive use from either a surface water or ground water source in hydraulic continuity with a closed surface water body in a closed basin will ordinarily be denied based on the water availability test pursuant to RCW 90.03.290. Exceptions to the closure may exist if an exception that is part of the minimum flow rule applies, or if a clear showing is made of eligibility for the statutory exemption for overriding consideration of public interest (RCW 90.54.020).

In streams where Ecology determines that no water is available for any further appropriations, the stream or a basin can be closed by rule as an alternative to setting flows, or in conjunction with setting instream flows. Most closures are best considered when coupled with the setting of instream flow levels. In that case, an instream flow right is established and the closure indicates that no new water is available from the stream or in the basin.

For small streams with less than 5cfs mean annual flow closure might be done without setting instream flows on the stream. For larger streams we recommend setting instream flows in conjunction with any full or seasonal closures. The instream flow setting provides additional protection to the stream since it creates a water right that is protected from impairment whereas a closure may not do so.

See Appendix A for directions for implementing this guidance.

Flow for stockwatering

In addition to setting instream flows, sufficient minimum flows need to be retained to satisfy stockwatering requirements in accordance with RCW 90.22.040 which says, in part:

“It shall be the policy of the state, and the department of Ecology...to retain sufficient minimum flows in streams, lakes or other public waters to satisfy stockwatering requirements for stock on riparian grazing lands which drink directly therefrom...” and:

“The policy hereof shall not apply to stockwatering relating to feed lots and other activities which are not related to normal stock grazing land uses. The flow for stockwatering will be determined based on the size of animal stock on riparian grazing lands and their water needs.”

PART 2: GUIDANCE ON ALLOWANCE FOR FUTURE OUT-OF-STREAM WATER USES IN CONJUNCTION WITH SETTING INSTREAM FLOWS

2.1 General Information

The legislature recognizes, in RCW 90.82.070(2), the importance of developing local watershed plans to address strategies for satisfying minimum instream flow needs for fish and providing water for future out-of-stream uses. However, while watershed plans are identifying strategies, it will be some time before many of these strategies are implemented. In addition, there are many watersheds without plans or plans with only general strategies.

In the meantime, Ecology is being requested by local governments and development community to address, in rules setting instream flows, future groundwater withdrawals especially future domestic and small uses using permit-exempt wells.

The ground water code, specifically RCW 90.44.050, allows individuals to use small amounts of ground water without having to obtain a water right permit from Ecology. Those uses include:

- Stockwatering;
- Single or group domestic, up to 5,000 gallons per day;
- Industrial purposes, up to 5,000 gallons per day; and
- Irrigation of up to one-half acre of lawn or non-commercial garden.

The ground water exemption, under RCW 90.44.050, is an exemption only from a water right permit application, not from the provisions and requirements of the ground water and surface water statutes and regulations, including compliance with instream flow rules.

The priority date associated with a permit-exempt ground water right is the date of first beneficial water use, which in the case of domestic use for new residence would typically be the date of occupancy of the residence. Use of water by a holder of a water right created under the permit exemption must be consistent with state laws and rules. For example, future uses of the ground water permit exemption that conflict with a senior instream flow can be restricted, limited, or prohibited if the wells are in hydraulic continuity with the streams/rivers with regulatory instream flows.

2.2 Allowance for future water uses

Absent an exception, Ecology is prohibited from allowing withdrawals of water from surface or ground water that conflict with an instream flow regulation. Withdrawals with potential conflict may be allowed only if there is a clear showing of overriding consideration of public interest (OCPI) as described in RCW 90.54.020(3)(a) or an exception is provided under the minimum flow rule.

2.2.1 Interruptible water rights

In general, water for new agricultural, municipal, commercial and industrial uses will need to be addressed in watershed plans, when they exist, and/or dealt with through the permitting process. This may result in interruptible water rights, meaning those rights may be regulated when stream flows are at or below the flow levels set by rule.

An interruptible water right is usually issued based on the determination that some water is available, frequently enough to meet the intended use of water. The water-right holder must also accept the risks associated with interruption of supply when an instream flow regulation is in place.

Interruptible water rights can be supplemented using alternative sources, such as storage or acquisition of senior water rights, to create a more long-term, reliable and predictable water supply.

2.2.2 Options for allowing future “uninterruptible” water rights

1. **Determination that water is available and no impairment of existing water rights.** Ecology can approve surface or ground water withdrawals if, based on technical studies (may be required of the project proponent) and cumulative analysis, it determines that surface and/or ground water is available and the proposed withdrawals will have no effect on the minimum instream flows during times that flows/levels are not met. Monitoring and reporting may be required.
2. **Mitigated withdrawal.** In cases where a water right application would more likely be denied based on a finding by Ecology that no water is available without impairment of instream flow resources, an applicant can voluntarily submit a mitigation plan outlining a set of actions. The mitigation plan must show that the withdrawal with mitigation in place will not impair senior water rights, including instream flow rights. In general, mitigation requires that when withdrawal is greatest and natural flow is low, such as in late summer/early fall, any water withdrawn be replaced by equal or greater amounts of water of comparable quality in the area of the stream affected by the withdrawal. Use of water shall be subject to the minimum instream flow to the extent that mitigation is not effective.
3. **Withdrawals from specific aquifers or areas.** Ecology can designate specific aquifers or ground water areas where withdrawals from wells would not conflict with instream flows. Ecology can also limit withdrawals from designated ground water areas (RCW 90.44.130) and limit the construction of wells in areas identified as requiring intensive control of withdrawals in the interests of sound management of the groundwater resource (RCW 18.104.040(4)(g)). The latter limitation is done by Ecology in consultation with the Department of Health and the Technical Advisory Group (created in RCW 18.104.190 governing licensing and well construction).

Note: Recent data and experience indicates that most, if not all ground water in Western Washington is in hydraulic continuity with a surface water body. In eastern Washington,

most if not all ground water in surficial aquifers is in hydraulic continuity with a surface water body.

Example: Ecology adopted a rule limiting the construction of wells in surficial aquifers in several sub-basins of the Methow watershed. The rule protects flow impaired streams and senior water rights, including instream flows, from continual permit-exempt withdrawals by shallow wells. Under this rule domestic water supply is being met by wells drilled into a deeper aquifer.

- 4. Connecting to public water systems.** Ecology can limit the development of new water supplies where a retail service area has been established pursuant to RCW 43.20.260, and where the connection can be provided in a timely and reasonable manner. Requiring connection to public water systems is an alternative to the development of private water supply systems for single or multiple domestic uses. This requirement is best implemented in collaboration with the Department of Health (DOH) and counties and cities within the basin. Ecology will use DOH guidance developed pursuant to the Public Water System Coordination Act, RCW 70.116.060(b). The Coordination Act states that “an existing purveyor is unable to provide service in a timely manner if water cannot be provided to an applicant for water within one hundred twenty days unless specified otherwise by the local legislative authority”. The guidance, still in draft form, outlines the most appropriate approach to determine whether water service is being provided in a timely and reasonable manner.

Note: This option is appropriate within designated Urban Growth Areas and within existing public water system service areas. In addition, in some cases public water systems may have a greater detrimental effect on stream flow than an exempt ground water withdrawal. The effects of the public water system on the resource should be considered in determining whether connection to a public water system should be required in an instream flow rule.

- 5. Exceptions provided under the minimum flow rule.** Exceptions to closures and instream flow regulations can be provided under the minimum instream flow rule. Some exceptions are described in this section 2.2.2. under 1, 2, 3, and 6a. Other exceptions may include withdrawals for non-consumptive uses, and temporary emergency water supply.
- 6. Reservations of water.** Ecology is authorized to reserve or set aside waters for future uses through rulemaking (RCW 90.54.050(1)). Criteria for reserving future water uses are the same as the four part test for issuing a water right:
 - a) water is available,
 - b) no impairment of existing water rights, (including instream flows rights),
 - c) use is considered beneficial use; and
 - d) non-detrimental to the public welfare.

A key determination is whether any further withdrawal or use of water can be made without compromising the protection and preservation of fish and wildlife. More specifically, the question might be restated “Will healthy populations of fish and wildlife still be protected with reasonable certainty if a withdrawal for a proposed amount occurs?”

If the populations will be protected, then a reservation may be consistent with the minimum instream flow and can be included in the rule. This may be the case for some large streams/ivers and in some non-flow impaired streams with limited development. Note: the reservation is junior to the instream flow rights. Any withdrawals approved from the reservation will be interruptible when instream flow regulation is in place, unless the impacts are fully mitigated. For a recent example of a reservation junior to instream flows see the Skagit Instream Flow rule, WAC 173-503.

Determination that water is not available may occur if its use would result in flows lower than those needed to protect and preserve fish and wildlife, and therefore conflict with the minimum flows set in rules. If a reservation would conflict with protection and preservation of fish and wildlife, then it may not be allowed unless it is interruptible, fully mitigated or there is a clear showing of overriding consideration of public interest (OCPI).

6a. Reservations based on Overriding Consideration of Public Interest.

In a situation where withdrawals of water would conflict with instream flow levels it is possible through the use of the statutory exception for OCPI [RCW 90.54.020(2)(a)] to allow a reservation. This would allow for some development that might otherwise not be possible. Reservation may be used to provide water for single or small group domestic uses in urban and transitional urban areas where public water supplies are not yet available on a timely and reasonable basis.

However, there needs to be a clear showing of overriding consideration of public interest. Such a showing involves weighing the public interests to determine whether the benefits will clearly override the harm. Harm refers most notably to any harm to fish and wildlife, or other instream uses of the water, including human recreation uses.

To establish that the public interest in providing water for out-of-stream uses clearly overrides the harm to fish and human use of water in the river, major considerations will include:

- (1) the limitation of uses to those of maximum public benefit, and
- (2) the extent to which the harm is avoided, minimized and mitigated.

The greater the level of avoidance, minimization, and mitigation of harm the more likely that an OCPI showing can be made. Typically, withdrawals established using OCPI would include a requirement that withdrawals occur pursuant to a mitigation plan that provides the most protection.

To focus on the most critical human use and minimize the environmental harm, use of OCPI to create reservations in instream flow rules should ordinarily be limited to in-house use with possibility of some limited outdoor uses, and, where appropriate, only until public water supplies become available.

The U.S. Geological Survey estimated, in its 2000 water use report for Washington state, domestic use per person at 50 to 80 gallons per day (gpd) and an average number of people per household at 2.5 to 3. For accounting purpose and, where appropriate, for regulation purpose we may use 350 gallons per day per household. This number is the lower limit for the maximum day demand value used when designing a new water system (see DOH Water System Design Manual chapter 5). However, if sufficient information has been collected and verified to support a maximum day demand of less than 350 gpd, that data may be used.

6b. Avoidance, minimization and mitigation of harm.

When providing water in flow-impaired streams, to the extent possible instream flow exceptions and reservations for human use should avoid or minimize the impacts of additional withdrawals by one or more means:

- Optimizing use of existing water rights through hook-up to existing water systems that have less impact on flow.
- Water-right changes.
- Conservation and efficiency.
- Use of deep aquifer.
- Use of innovative water management projects, e.g., returning water to aquifer and streams through aquifer storage and recovery and off-channel surface storage.

The use of the reservation may require mitigation by the developer, county, and/or municipalities implementing certain management infrastructure improvements or regulations, such as specific service connection requirements and better protection and management of ground water aquifer recharge areas (e.g., reduction of impervious surfaces in future construction). Additional water from stressed watersheds might only be available after such improvements are made.

6c. Tools to avoid or minimize harm.

- Limit both the daily amount and types of water use to the most critical, such as in house domestic.
- Require all uses to comply with best management practices (BMP), and conservation standards (e.g., DOH standards).
- Locate projects to avoid or minimize impacts such as placing point of diversion or point of impact as far downstream as possible and diverting from larger streams rather than small streams, where possible.
- Require all uses to discontinue if another water supply with less impact can provide hook-ups in a timely and reasonable manner (see above discussion on the subject).
- Regulate the number and/or depth of future well construction.
- Decommission existing shallow wells to be replaced by new deeper wells with less surface water continuity.
- Measure and monitor water use and streamflows to track quantity of new water uses, and measure trends in use.

6d. Tools to mitigate harm.

Mitigation is for the loss of groundwater inflow when it is most critical to fish and when groundwater inflow is the greatest part of the stream flow. Flows should be augmented at a rate that is greatest in summer when withdrawal is greatest and natural flow is low. For example 100% mitigation could be required for withdrawals from June to October, depending on local hydrology.

Water for water mitigation:

- Acquire or transfer other water rights to offset effect.
- Use pump and dump to offset effect (some monitoring of effectiveness, particularly in downstream direction, is necessary).
- Use storage to offset effect.
- Acquire water rights for transfer to instream flow trust water right program.

Non-water mitigation may be used in conjunction with, not in place of, water for water mitigation. Such mitigation includes:

- Habitat improvements---such as down large woody debris placement, removal of barriers, restoration of degraded stream channels, gravel placement, etc.
- Riparian land reserves, open space designation and other land conservation action that may be necessary to protect riparian habitat, surface water flows and/or groundwater recharge areas and counteract some of the adverse impacts from increased impervious surfaces and associated run-off.

7. Establish a Trust Water Right Program.

Ecology can establish a trust water right program to provide a source of mitigation water for new out-of-stream uses, to offset impacts on stream flows and improve streamflows for fish. Water put into the trust water rights program will be done in accordance with existing laws for water right changes, amendments, and transfers, and through agreements, contracts, assignments, and other instruments that ensure a reliable source of water based on valid state water rights and state laws. Potential sources of water for the trust water rights program include, but are not limited to:

- Implementation of conservation measures.
- Development of new or expanded multipurpose storage of water.
- Changes in management of existing storage projects.
- Acquisition of existing water rights, in part or whole, through purchase, long term leases or donation.
- Saved water returned to the state by water right holders who choose to implement best management practices.

The determination of how much water should be allocated to out-of-stream uses and to instream uses will be made at the time the water is acquired to be deposited into the trust water rights program, unless Ecology is constrained by conditions placed upon the rights transferred or the funds used to acquire the water.

The use of this option is best done in collaboration with the watershed planning unit and should be consistent with the planning unit strategies for satisfying minimum instream

flow needs for fish and providing water for future out-of-stream uses. This option should be used either:

- in-lieu of a reservation if sources of water for the trust water rights program have been developed, or
- in conjunction with a reservation to mitigate any impacts of the reservation and provide water for continued growth (e.g., beyond 20 year population projections) once the reservation is used up, and/or
- for out-of-stream uses that are constrained, restricted or not allowed due to lack of available water.

Summary of guidance for reserving water, not limited by instream flow regulations, for future small domestic ground water uses from permit exempt wells

In order to minimize impacts to fish resulting from reservations that are made senior to instream flows, such reservations should ordinarily be limited to **areas, such as rural areas where the use of exempt withdrawals or very small community systems is generally the only available water supply**. Rural areas are those areas so designated by the county under the Growth Management Act (Chapter 36.70A RCW). Densities in these areas are usually low, and typical parcel sizes, except for special conditions, are one dwelling per five or more acres.

In these **limited areas** an amount of water can be reserved and made available for future small domestic uses not limited by the instream flow regulations. This is consistent with the statutory language of RCW 90.54.020(5) regarding protecting and preserving adequate and safe supplies of water to satisfy human needs, which omits identification of other priority uses. The reservation can be made senior to the instream flow by language in the same rule which contains a provision that expressly states that the water used under this type of reservation is not governed by the minimum flow restrictions and is senior thereto.

However, because a senior reservation places the risk on the fish and wildlife in a situation of shortage, the amount of the senior reservation should generally be limited to:

- The smallest amount practicable that substantially accomplishes the goal of the reservation.
- Uses that provide water that is needed for critical uses during low flow periods-- indoor domestic use.
- Uses for which public water service is not available.
- Reasonable limitations discussed in the above section on avoidance, minimization and mitigation of use should also be considered, especially metering and reporting, compliance with conservation standards, and monitoring and tracking the cumulative effects of the withdrawals.
- Convert to other water supply when/if one with less impact becomes available.
- Selected aquifer(s) and location for well construction based on surface-groundwater interaction, individual and cumulative impacts of permit-exempt withdrawals, and the risks to stream flows and water quality.

See Appendix A for direction for implementation of the guidance.

PART 3: APPLICABILITY OF THE MAXIMUM NET BENEFIT TEST TO RULES SETTING INSTREAM FLOWS AND ALLOCATING WATER FOR FUTURE OUT-OF-STREAM USES

3.1 Applicability of the maximum net benefits requirement

The 1971 Water Resources Act. RCW 90.54.020(2) requires Ecology to maximize the net benefits for the citizens of the state when it allocates water.

Ecology will implement the maximum net benefits provision solely in the context of rule-making associated with allocations of water, including water availability assessments on a basin scale.

Specifically, Ecology *will perform* a maximum net benefits analysis in the following situations:

- When it is developing a rule to create a “reservation” for a particular use or uses, as allowed by RCW 90.54.050(1), except where the reservation is being established solely to ensure a reliable and safe supply of potable water to satisfy human domestic needs; and
- When it is developing a rule that would quantify the remaining water available for appropriation within a basin, in particular if the rule would commit a large quantity of water or a major share of the water resources of the basin to future new appropriations.

Ecology *will not perform* a maximum net benefits analysis in the following situations:

- When considering an application for a new water right under RCW 90.03.290 or RCW 90.44.060, or an application for change, transfer or amendment under RCW 90.03.380 or RCW 90.44.100;
- When water is appropriated (or “retained”) to provide for minimum water flow or levels or minimum instream flows under Chapters 90.22, 90.82 or 90.54 RCW. These “water flows or levels” can be established for instream flows (RCW 90.22.010) or for “stockwatering requirements” for other than feedlots. (RCW 90.22.040); and
- When parties use water under the “groundwater exemption” identified in 90.44.050. These uses include: “...any withdrawal of public ground waters for stock-watering purposes, or for the watering of a lawn or of a noncommercial garden not exceeding one-half acre in area, or for single or group domestic uses in an amount not exceeding five thousand gallons a day...or for an industrial purpose in an amount not exceeding five thousand gallons a day...”

PART 4: STATE DECISIONS TO APPROVE CHANGES TO INSTREAM FLOW PRIORITY DATES SET THROUGH THE WATERSHED PLANNING ACT.

RCW 90.82.080 (2)(a) says: "Notwithstanding RCW 90.03.345, minimum instream flows set under this section for rivers or streams that do not have existing minimum instream flow levels set by rule of the department shall have a priority date of two years after funding is first received from the department under RCW 90.82.040, **unless determined otherwise by a unanimous vote of the members of the planning unit** but in no instance may it be later than the effective date of the rule adopting such flow." (emphasis added)

For the first wave of watershed planning under Chapter 90.82 RCW, the statutory priority date is either June 12 or July 7, 2000, two years after the dates that Ecology provided funding for watershed plans. The priority date has an implication only for the use of junior water rights, including rights created by permit-exempt ground water withdrawals (note the priority date for exempt ground water withdrawal is typically the priority date of occupancy of the residence). This means that any water right issued or established after the instream flow dates will be junior to the regulatory instream flows, and therefore may include restrictions or conditions. (The priority date for flows adopted under Ch. 90.54 RCW will be the date of adoption.)

Ecology is holding all pending applications in WRIs where instream flow work is underway for new surface water rights and new ground water rights that may be in hydraulic continuity with the surface water. Decisions on those applications will be made after instream flow rules are adopted and any water rights issued will be subject to the instream flow rule, no matter what date the applications were filed. Consistent with the statutes, any pending water-right application with a priority date either ahead of, or after, the instream flow priority date is subject to instream flow regulations once they are adopted.

The priority date is, however, an important issue for exempt withdrawals put to beneficial use after the statutory priority date (e.g. June 2000) and before instream flow rules are adopted. Any exempt withdrawals junior to instream flow rights will be subject to regulation when flows are not met.

Ideally the change to the priority date should be considered, where appropriate, early in the planning process. However, some watersheds are raising legal and policy questions related to the use of the statutory exception "**unless determined otherwise by a unanimous vote of the members of the planning unit**" after instream flow recommendations have already been developed.

Ecology, as the member of the Planning Unit representing the state caucus, should consider all of the following factors and any relevant considerations in determining whether to vote in favor of the change:

- Agreement by all members of the state caucus.
- The basin is a non-critical basin with no flow impaired streams.
- Experiencing limited development of permit-exempt ground water withdrawals.

- Biological analysis has been performed that determines water is available without conflict with instream flows.
- The planning unit is actively pursuing strategies to increase the supply of water for instream and future out-of-stream uses.
- Local government is proposing land use restrictions to address the cumulative impacts of permit-exempt ground water withdrawals.
- The extent of additional water use during the intervening years is considered to have had little or no impact on stream flows.

Appendix A
Directions for Implementing
Guidance on Setting Instream Flows and
Allocating Water for Future Out-of-stream Uses

I. Guidance for determining and recommending instream flow levels to be set in rules.

Step 1. Assess habitat flows using field data, professional observation and habitat models such as IFIM and Toe-width.

Step 2. Develop initial biological flows.

Step 3.

In **gaged** streams, use historical hydrologic data to:

- Create a hydrograph, if several years of records exist to evaluate the frequency and duration of flows needed for selected fish species and their life stages;
- Determine if the frequency and duration of the instream flows last long enough to be of benefit to the fish population; and
- Adjust, if needed, the initial biological flows to generate monthly and/or by-weekly recommended instream flows.
 - For example, in the Samish we decided that stream flows needed to provide fish benefit are those that are met or exceeded for about seven consecutive days, at least one out of every 10 years, during the spawning and/or rearing period for steelhead and chinook.

In **un-gaged** streams with no historical stream flow data:

- Synthesize stream flow data to create hydrographs, if it can be done with high degree of confidence, and develop the recommended instream flows levels as described in step 3a; or
- Use results of the habitat models to develop the recommended flow levels as described in steps 1 and 2 above.

II. Guidance for determining water availability above the minimum instream flows.

Step 1. Use the minimum flow levels as the thresholds in determining water availability (withdrawals by existing water rights are reflected in the historical hydrologic data recorded at the various gages).

Step 2. Determine if water/flow is available by analyzing the frequency and duration of stream flows that are above the minimum instream flows.

- To represent the existing stream flows, we assume snow and rain events will occur at the same rate as in the past, and we use the 10%, 50%, and 90% exceedance flow statistics to predict what flow levels should appear in the future.
 - The daily median flow on a hydrograph has a 50% chance that the flow will exceed it. Median flows can be used to determine adequacy of water availability.

- The 10% tell us how high the flow usually goes - ten percent of the time the flows are greater or exceed that flow number. The 90% exceedance flow is useful as an indicator of expected low flows in the future.
- The 10%, 50% and 90% flow exceedances are compared to the recommended instream flows to determine if water is available, when, and for how long.
- Once the instream flow is above the median flow, then typically no water is available for new uses such as irrigation which requires a steady supply of water with high degree of reliability.

Step 3. If water is available with sufficient frequency and duration, determine the maximum amount of water withdrawals that could be made and still maintain flows needed for channel and riparian maintenance, and other ecological functions. To protect these functions a maximum amount of water should be set for new allocations. This amount can be calculated using the 10% of the daily median flow (stream flow with 50% exceedance) for the months when water is available above the minimum instream flow.

- For example, for the mainstem of the Stillaguamish, from November to June, the 50% exceedance is 3000-4000cfs, 300cfs (10% of the lowest flow) is proposed for maximum amount of withdrawals during that period.

Step 4. If water is not available throughout the year or for several months in the year, strong consideration should be given to year-around or seasonal stream closures.

- Most closures are best considered when coupled with the setting of instream flow levels. In that case, an instream flow right is established and the closure indicates that no new water is available for future uses, including permit-exempt ground water uses.
- Water right applications for consumptive use from surface water or ground water, in hydraulic continuity with surface water body, in a closed basin will ordinarily be denied based on the water availability test pursuant to RCW 90.03.290.
- Exceptions to the closure may be provided as part of the minimum flow rule, to address withdrawals from exempt wells and provide guidance to future permitting actions; see III below.

III. Guidance for allocating water to future out-of-stream uses.

The guidance applies to surface water and ground water withdrawals, including permit exempt withdrawals, when in hydraulic continuity with surface waters.

Note: The following applies unless specific hydrogeologic data exists to the satisfaction of Ecology. In western Washington, based on recent data and experience most, if not all, ground water is in hydraulic continuity with a surface water body. In eastern Washington most, if not all, ground water in surficial aquifers is in hydraulic continuity with a surface water body.

If water is available as determined in II above and the stream is not fully or partially closed, interruptible water rights may be issued based on (1) the determination that water is available for the intended beneficial use (use can be interruptible without hardship to the right holder), (2) without impairing existing water rights, and (2) the use is not detrimental to public interest. Those rights more likely will be subject to regulation when stream flows are at or below the flows set by rules.

Note: In general, an interruptible right is a concern for a water right holder in need of a long-term, reliable and predictable supply of water, unless the right is (1) right to use high flows for surface and ground water storage, or (2) it is used in conjunction with other alternative water supplies (e.g., acquisition of senior water rights, and mitigation to offset the loss of water during regulation).

If the stream is partially closed, water rights may be issued only if the period of intended withdrawals/use is consistent with when water is determined to be available. Withdrawals from these streams can include withdrawals for ground water recharge and storage or to supplement existing sources of water. The withdrawals should be limited to the maximum amount of water established in Part II, Step 3.

If the stream is fully closed, water right application requests for consumptive use from either a surface or ground water source, in hydraulic continuity, will ordinarily be denied based on the water availability test, unless:

1. An exception provided for under the minimum flow rule applies to the proposed use.
2. A mitigation plan submitted by the applicant is approved by Ecology. In general, mitigation requires that when withdrawal is greatest and natural flow is low, such as late summer/early fall, any water withdrawn be replaced by equal or greater amounts of water of comparable quality in the area of the stream affected by withdrawal.
3. A reservation is established based on a clear showing that the proposed uses are eligible for the statutory exemption for overriding consideration of public interest.

Use of the overriding consideration of public interest (OCPI) to allow appropriation and reservation of water. A clear showing of OCPI involves the following:

1. Weighing the public interests to determine whether the benefits will clearly override the harm. Public interest harm refers most notably to any detrimental impacts to fish and wildlife, or other instream uses of the water, including human recreation uses. A key determination of whether impacts will occur can be made by answering the questions (1) if withdrawal for a proposed amount occurs, would it conflict with the minimum instream flows, and (2) will the loss of habitat significantly impact the long term sustainability of the fish population.
 - Biologists at Ecology, in consultation with WDFW have used 1 to 2% fish habitat loss during 1 in 10 year low flow condition (90% exceedance) as a limit on the impact to the fish population.

2. Establishing that the public interest in providing water for out-of-stream uses clearly overrides the impacts to fish and human use of water in the river. Major considerations must be given to:
 - Managing exempt withdrawals by minimizing their proliferation and inappropriate use.
 - Limiting uses to those providing maximum public benefit such as:
 - 1) Domestic water in rural areas where the use of exempt withdrawals or very small community systems is generally the only available water supply.
 - 2) Limited withdrawals for single or small group domestic in urban and transitional urban areas, until public water supplies become available on a timely and reasonable basis.
 - Avoiding, minimizing and mitigating the impacts to the extent possible by:
 - 1) Limiting both the daily amount and types of water use to the most critical such as in-house and very limited outdoor uses.
 - 2) Limiting the number and depth of future well construction.
 - 3) Ensuring withdrawals occur pursuant to a mitigation plan (e.g., retire other water rights, use pump and dump, use storage to augment flows, acquire water right for instream flows) that provides the most protection.
 - 4) Optimizing use of existing water rights through hook-up to existing systems with existing capacity.

Reservation of water for future small domestic ground water uses that are not limited by instream flow regulations. In areas, where the use of exempt ground water withdrawals or very small community systems is generally the only available water supply, an amount of water can be reserved and made available for those uses not limited by instream flow regulations.

1. Amount of water reserved

The amount of water reserved can be established by determining how much water can be reserved without significantly impacting the long term sustainability of the fish population.

Biologists from Ecology, in consultation with WDFW have used 1% to 2% as a limit on loss of habitat during low flow months (usually August or September) and low flow years (90% exceedence).

The 1% or 2% habitat loss is converted into a reserve amount for year round domestic uses not limited by the instream flows set by rule.

- For example, in the Samish River a 1cfs withdrawal from ground water causes a 1% to 2% habitat loss during the lowest flow period-- September.

For the mainstem of the Stillaguamish River, a 5cfs reservation would result in 1% loss of habitat during the lowest flow month--September.

2. Limitations on a reservation

However to ensure a senior reservation does not place high risk on fish populations in a situation of shortage, the amount of the senior reservation should be the smallest amount practicable that accomplishes the goal of the reservation.

The reservation should be limited to providing water

- for critical uses during low flow periods—indoor and small limited outdoor uses, and
- where no public water service is available.

Well construction should be restricted to selected aquifer(s) and geographic location(s).

3. Assumptions used to determine if the amount of water reserved meets future domestic water needs in the area where the reservation applies.

Note: These assumptions may not be relevant in watersheds where Ecology and the county(ies) have agreed (through MOU, letter of agreement or other interagency mechanism) on the reservation and its use.

- Future growth in domestic uses is calculated using OFM 20-year high population projection numbers for the watershed—this may require some conversion from the county(s) to the watershed.
- Average water use is 350 gallons per day per household.
- Consumptive use by household is 50% if household is served by septic system. This is to account for return flows from septic systems and outdoor use.
- An X number of households will be served by existing public water systems. Possible sources of information to use may include the county(s) comprehensive plans, and UGA; public water suppliers service areas; coordinated water supply plans; and/or DOH.

Appendix B: Additional Information Pertinent to Future Domestic Water Uses

Local government roles/responsibilities related to water availability and the use of permit-exempt withdrawals

Evidence of Water Availability (RCW 19.27.097) Building Permit Applications:

- Applicants for building permits are required to provide evidence of an adequate water supply.
- A county or city may impose conditions on building permits requiring connection to an existing public water system where the existing system is willing and able to provide safe and reliable potable water with reasonable economy and efficiency.
- The Department of Ecology, after consultation with local governments, may adopt rules to implement this section, which may recognize differences between high-growth and low-growth counties.

Approval of Subdivision and Dedication (e.g., park); RCW 58.17.110:

- The county or city must determine that provisions for potable water supplies are made prior to approving a subdivision or a dedication (e.g., park, and athletic fields).

Comprehensive Plans and Development Regulations

- Local governments planning under the Growth Management Act must consider the goals outlined in RCW 36.70A.020. Growth Management Act Goals (5) and (10) are pertinent to this issue: goal (5)--economic development should be encouraged within the capacities of the state's natural resources, and goal (10) the environment should be protected and the availability of water should be enhanced. In addition counties and cities are required to designate and protect aquifer recharge areas.

Growth Management Controls

- A county or city planning under GMA can adopt controls on development or land use activities, RCW 36.70A.040. For example a local government can limit the number of subdivisions; impose certain development densities; limit the drilling of wells to protect aquifer recharge areas; limit the total amount of water use; and restrict certain landscaping practices. The controls can be done by adopting zoning ordinances or development regulations.

Local watershed strategies addressing water availability and the need of future out-of- stream uses

- The legislature stated in RCW 90.54.005 that an effective way to provide and secure water to meet the needs of people, fish and farms is through strategies developed and implemented at the local watershed level.
- The legislature recognized the inadequacy of existing water supplies to meet the needs of fish and future out-of-stream needs.
- Watershed planning units formed under Chapter 90.82 RCW are instructed by the statute to assess water supply and use, and to develop strategies for increasing water supplies, through

conservation, water reuse, transfers and other means, in sufficient quantities to satisfy instream flow needs and provide water for future out-of-stream uses.

Washington Department of Health roles and responsibilities related to this guidance

- Retail service area expectation under RCW 43.20.260.
- Coordinated Act requirements under RCW 70.116 and WAC 246.293.
- Satellite Management Agency requirements under RCW 70.116.134 and WAC 246.295.